

**LIST OF CURRENT CLAIMS**

1. (Currently Amended) A method for checking value documents ( $\exists$ ) having an authenticity feature in the form of at least one luminescent substance, the value document ( $\exists$ ) being irradiated with light ( $\theta$ ) and the luminescence radiation ( $\neq$ ) emanating from the value document ( $\exists$ ) detected with spectral resolution to determine whether the authenticity feature is present in the value document ( $\exists$ ), comprising the steps:

~~characterized in that~~

forming a measuring vector ( $X$ ) ~~is formed~~ from the measuring values corresponding to different frequencies and/or frequency domains of the luminescence radiation; ( $\neq$ ); and

doing an object allocation of the measuring vector ( $X$ ) to one of a plurality of given reference vectors ( $A_1, \dots, A_k$ ) corresponding to different authenticity features is ~~done~~ by allocating at least one object allocation area ( $G_1, \dots, G_l$ ) to each reference vector ( $A_1, \dots, A_k$ ) and checking which object allocation area ( $G_1, \dots, G_l$ ) the measuring vector ( $X$ ) is located in.

2. (Currently Amended) The  $[[A]]$  method according to claim 1, including ~~characterized in that the checking method has~~ a further step for checking whether the amount ( $|X|$ ) of the measuring vector ( $X$ ) is greater than a given reference value ( $R$ ).

3. (Currently Amended) The  $[[A]]$  method according to claim 2, wherein ~~characterized in that~~ the step of checking whether the amount ( $|X|$ ) of the measuring vector ( $X$ ) is greater than a given reference value ( $R$ ) is carried out before the step of allocating the measuring vector ( $X$ ) to one of a plurality of given reference vectors ( $A_1, \dots, A_k$ ).

4. (Currently Amended) The  $[[A]]$  method according to claim 1, wherein ~~at least one of the previous claims, characterized in that~~ the measuring vector ( $X$ ) and the reference vectors ( $A_1, \dots, A_k$ ) are normalized.

5. (Currently Amended) ~~The~~ [[A]] method according to claim 1, wherein ~~at least one of the previous claims, characterized in that~~ the object allocation of the measuring vector ( $X$ ) to one of the reference vectors ( $A_m$ ) is done by comparing the measuring vector ( $X$ ) with a plurality of reference vectors ( $A_1, \dots, A_k$ ) and/or with at least one quantity ( $T$ ) which depends on at least two reference vectors ( $A_1, \dots, A_k$ ).

6. (Currently Amended) ~~The~~ [[A]] method according to claim 1, wherein ~~at least one of the previous claims, characterized in that~~ the object allocation of the measuring vector ( $X$ ) to one of the reference vectors ( $A_m$ ) is done by determining a ~~the~~ smallest difference, as exemplified by e.g. the smallest distance ( $d(X, A_m)$ ) from the measuring vector ( $X$ ) to the reference vectors ( $A_1, \dots, A_k$ ).

7. (Currently Amended) ~~The~~ [[A]] method according to claim 1, wherein ~~at least one of the previous claims, characterized in that the~~ a quantity ( $T$ ) which depends on at least two reference vectors ( $A, B$ ) is formed as a separation plane ( $T$ ) between the two reference vectors ( $A, B$ ), as exemplified by such as an  $(n-1)$  dimensional hyperplane ( $T$ ) between the two  $n$ -dimensional reference vectors ( $A, B$ ), the separation plane ( $T$ ) separating the object allocation areas ( $G_A, G_B$ ) of the two reference vectors ( $A, B$ ) from each other.

8. (Currently Amended) ~~The~~ [[A]] method according to claim 7, wherein a quantity ( $T$ ) which depends on at least two reference vectors ( $A, B$ ) is formed as a separator plane ( $T$ ), and ~~at least one of the previous claims, characterized in that~~ the object allocation of the measuring vector ( $X$ ) to one of the reference vectors ( $A_m$ ) is determined by determining ~~the~~ a position of the measuring vector ( $X$ ) relative to the separation plane ( $T$ ).

9. (Currently Amended) ~~The~~ [[A]] method according to claim 1, wherein ~~at least one of the previous claims, characterized in that~~ the luminescence radiation (10) is measured with time resolution on a value document ( $\exists$ ) to be checked, whereby such that the comparison of measuring vector ( $X$ ) and reference vectors ( $A, B$ ) can be done time-dependently.

10. (Currently Amended) The ~~[[A]]~~ method according to claim 1, wherein ~~at least one of the previous claims, characterized in that~~ the measurement of the luminescence radiation (10) is done only on one or more predetermined partial areas of a surface of the value document surface which can be predetermined denomination-specifically.

11. (Currently Amended) The ~~[[A]]~~ method according to claim 1, wherein ~~at least one of the previous claims, characterized in that~~ the measuring vector (X) comprises measuring values of an invisible the infrared or ultraviolet, i.e. an invisible, spectral range, as exemplified by infrared and ultraviolet spectral ranges.

12. (Currently Amended) The ~~[[A]]~~ method according to claim 1, wherein ~~at least one of the previous claims, characterized in that~~ the evaluation of the measuring values takes account of a background signal (L2-L1) which does not come from the luminescence radiation (10).

13. (Currently Amended) The ~~[[A]]~~ method according to claim 12, wherein ~~13, characterized in that~~, for forming the measuring vector, an amount depending on the magnitude of the background signal (L2-L1) is subtracted from the measuring values.

14. (Currently Amended) The ~~[[A]]~~ method according to claim 13, wherein ~~14, characterized in that~~ the amount is dependent on the magnitude of a minimum and/or maximum of the measuring values and/or a ratio of two measuring values.

15. (Currently Amended) Apparatus ~~An apparatus (1)~~ for checking value documents (3) having an authenticity feature in the form of at least one luminescent substance, comprising:

~~having~~ a light source (5) for irradiating the value document; ~~(3) and~~  
a spectral sensor (6) for detecting with spectral resolution the luminescence radiation (10) emanating from the value document (3), and having an evaluation device (7) connected to the spectral sensor (6) for determining whether the authenticity feature is present in the value document (3);  
~~characterized in that~~

wherein the evaluation device (7) is ~~designed so that~~ arranged to form a measuring vector (X) ~~is formed~~ from the measuring values corresponding to different frequencies and/or frequency domains of the luminescence radiation (10), and is further arranged to do an object allocation of the measuring vector (X) to one of a plurality of given reference vectors ( $A_1, \dots, A_k$ ) corresponding to different authenticity features ~~is done~~ by allocating at least one object allocation area ( $G_1, \dots, G_l$ ) to each reference vector ( $A_1, \dots, A_k$ ) and checking which object allocation area the measuring vector (X) is located in.